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Inventor: Doi, Yutaka
Serial No.: 09/752,660
Client Ref. No. H0001384 (4970)
Our Ref. No. 100665.0026US1

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Art Unit: 2841 4-20-02
Examiner: Patel, Ishwarbhai B.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231

Inventor: **Doi, Yutaka**
Serial No: **09/752,660**
Filed: **December 28, 2000**
For: **Layered Circuit Boards
and Methods of
Production Thereof**

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RESPONSE TO OFFICE ACTION

The Honorable Commissioner
of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

This paper responds to the Office Action dated December 6, 2001. Please enter the following:

IN THE CLAIMS

A1

1. An electronic component, comprising:
a substrate layer; and
an insulator layer coupled to the substrate layer, wherein the insulator layer comprises an insulating material, a first etched compartment filled with a capacitor material, and a second etched compartment filled with a resistor material, wherein the resistor material differs from the capacitor material and both the resistor material and capacitor material differ from the insulating material of the insulator layer.

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A2 11. The electronic component of claim 1, further comprising a first embedded passive component and a second embedded passive component wherein the first passive component is a resistor comprising the resistor material and the second passive component is a capacitor comprising the capacitor material.

Cancel claims 13-17.

IN THE SPECIFICATION

The paragraph beginning at page 8, line 21, is rewritten as follows:

A3 --Additional layers of material 140 may be coupled to the insulator layer 110 in order to continue building a layered component or printed circuit board 5. It is contemplated that the additional layers 140 will comprise materials similar to those already described herein, such as metal layer 142, including metals, metal alloys, composite materials, polymers, monomers, organic compounds, inorganic compounds, organometallic compounds, resins, adhesives and optical wave-guide materials.--

IN THE DRAWING

Please substitute the drawing pages (Figs. 1-5) accompanying this transmittal for the pages (Figs. 1-4) originally filed with the specification.

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REMARKS

Election Requirement

Applicant elects claims 1-12 without traverse.

Drawing Amendments

Figure 1 was amended per the Office's recommendation to include the designation "(Prior Art)" as part of its label. No new matter was added.

Figure 2 was amended to be consistent with Figure 4. In particular, metal layers 102 and 142 (previously not numbered but shown via the "capacitor" cross-hatching of figure 4) were added, as was appropriate cross hatching as required by the Office. No new matter was added.

Figure 5 was added so that the cross-hatching previously part of figure 4 would be properly shown in sectional views rather than as surfaces on perspective views. Cross-hatching not originally part of figure 4 but consistent with the specification as filed was also added. No new matter was added.

Claim Amendments

Claim 1 was amended to replace the phrase "at least two different kinds of embedded passive components" with "an insulating material, a first etched compartment filled with a capacitor material, and a second etched compartment filled with a resistor material, wherein the resistor material differs from the capacitor material and both the resistor material and capacitor material differ from the insulating material of the insulator layer." Support for this amendment can be found in the application as filed, in particular on page 7, lines 19-27, and page 8, lines 4-12. No new matter was added.

Claim 11 was amended to be consistent with claim 1. In particular, the phrase "wherein the at least two embedded passive components comprises a resistor and a capacitor" was replaced with "further comprising a first embedded passive component and a second embedded passive component wherein the first passive component is a resistor comprising the resistor material and the second passive component is a capacitor comprising the capacitor material." Support for this

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amendment can be found in the application as filed, in particular on page 7, lines 19-27. No new matter was added.

Specification Amendments

Page 8 of the specification was amended to include a reference to the “metal layer 142” previously shown via the “capacitor” cross-hatching in the last perspective view of the series of Figure 4 (compare the cross-hatching of the 2nd to last view with that of the last view). Although element 142 was previously shown, the drawing did not previously include the reference number for that element.

Drawing Objections

The changes requested by the Office, inclusion of a “Prior Art” legend on figure 1, and correction of cross-hatching on figures 1, 2, and 4, have been implemented via the drawing amendments contained herein.

35 USC § 102

Claims 1-5, 9, 11, and 12 were rejected under 35 USC § 102(e) as being anticipated by Felton (US 6317023). The applicant disagrees, especially in view of the amendments set forth herein.

As amended herein, claim 1 (and claims 6-12 by virtue of their dependence on claim 1) all include the recitation of “...the insulator layer comprises ... a first etched compartment filled with a capacitor material, and a second etched compartment filled with a resistor material....” Felton does not teach or suggest a component comprising an *etched compartment* filled with a capacitor material and/or an *etched compartment* filled with a resistor material. As such, at least for these reasons, Felton does not teach or suggest all the recitations of claim 1 and therefore does not anticipate claim 1 or any claim dependent on claim 1.

35 USC § 103

Claims 6-8 and 10 were rejected under 35 USC § 103 as being obvious over Felton in view of Van De Walle et al. (US5731747, herein referred to as Van De Walle). The applicant

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disagrees, especially in view of the amendments set forth herein. Among other things, claims 6-8 and 10 are all allowable as being dependent upon allowable claims.

ATTACHED MARKED-UP VERSION OF CHANGES

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

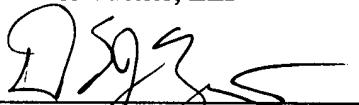
REQUEST FOR ALLOWANCE

Claims 1-12 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,

Rutan & Tucker, LLP

By:


David J. Zoetewij
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Dated: March 5, 2002

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